

Claims

- [c1] 1.A pitching machine, for launching a ball to simulate a soft toss pitch which can be activated by a hitter, comprising:
- a support frame;
 - a ball tube assembly adapted to store and launch the ball, said ball tube assembly being multi-curved and said ball tube assembly being configured such that the ball rolls in said ball tube assembly due to gravity towards a ball rest end for launching;
 - a release assembly positioned along said ball tube assembly, said release assembly configured to release the ball from a storage position to a firing position;
 - a ball firing assembly positioned beyond said release assembly and along said ball tube assembly, said ball firing assembly configured to launch the ball after being released by said release assembly; and
 - a control unit adapted to be used by the hitter, said control unit connected to said release assembly and said ball firing assembly to activate said release assembly and said ball firing assembly.
- [c2] 2.The pitching machine of claim 1, wherein said ball tube

assembly is pivotally connected to said support frame to adjust ball launch angle.

[c3] 3.The pitching machine of claim 1, wherein said ball tube assembly includes a loading section, release section, activation section and firing section; wherein said loading section is connected to said release section and includes an open storage area to load and store balls and direct balls to said release section; wherein said release section is connected to said activation section and includes positioning of said release assembly; wherein said activation section is connected to said firing section; wherein said firing section includes positioning of said ball firing assembly; wherein said loading section, release section, activation section and firing section each including an inner open path, such that the ball can travel from said loading section to said firing section.

[c4] 4.The pitching machine of claim 3, wherein said open storage area includes a load opening which leads to the inner open path along said release section, activation section and firing section; wherein said open storage area of said loading section tilts downward, so as balls are loaded, the balls roll into the load opening; wherein from said load opening said loading section curves downward and connects to said release section; wherein said release section leads in a downward direction to

said activation section; wherein said activation section curves about ninety degrees and leads to said firing section; and wherein said firing section includes said ball rest end.

[c5] 5.The pitching machine of claim 1, wherein said release assembly includes a first ball stop which can be moved into said inner open path of said release section and a second ball stop which can be moved into said inner open path of said release section.

[c6] 6.The pitching machine of claim 1, wherein said ball release assembly includes a release arm; wherein said release arm includes a first end and a second end; wherein said release arm pivotally mounts to said release section between said first and second ends; wherein said release arm includes a first ball stop which can be moved into said inner open path of said release section on said first end of said release arm and a second ball stop which can be moved into said inner open path on said second end of said release arm.

[c7] 7.The pitching machine of claim 6, wherein said release assembly includes a release spring to bias said release arm such that said first ball stop moves into said inner open path of said release section.

- [c8] 8. The pitching machine of claim 6, wherein said release assembly includes a release cable between said control unit and said release arm to pivot said release arm, such that said first ball stop and said second ball stop can be moved in and out of said inner open path of said release section.
- [c9] 9. The pitching machine of claim 1, wherein said ball firing assembly includes a firing housing, firing rod, firing spring, firing cable and firing cup; wherein said firing housing is located at said ball rest end of said ball tube assembly; wherein said firing housing includes a cup stop with a hole; wherein said firing cup includes a top, a bottom, said top of said firing cup includes a cavity to form a ball cup to receive the ball and said firing cup includes a hole from said top to said bottom of said firing cup; wherein said firing rod includes a top end and a bottom end; wherein said top end of said firing rod is interconnected to said firing cup, wherein said firing spring is slipped over said bottom end of said firing rod and below said firing cup; wherein said bottom end of said firing rod is inserted into said hole of said cup stop in said firing housing; and wherein said firing cable is connected between said bottom end of said firing rod and said control unit.

[c10] 10. The pitching machine of claim 9, wherein said ball firing assembly further includes an activation rod, activation arm and activation return spring; wherein said activation rod includes a top end and a bottom end; wherein said top end of said activation rod protrudes into said activation section of said ball tube assembly such that the ball hits said top end of said activation rod as the ball rolls along said inner open path; wherein activation arm includes a firing rod end and an activation arm end; wherein said firing rod end of said activation arm includes a hole to receive said firing rod; said firing housing includes an activation opening to allow said firing rod end of said activation arm to be inserted into said firing housing; wherein opposite said activation opening said firing rod end of said activation arm is pivotally connected to said firing housing; wherein said activation arm end of said activation arm is rotatably attached to a bottom end of said activation rod; wherein said activation return spring is mounted between a point at about mid point of said activation arm and a point above said activation arm on said ball tube assembly.

[c11] 11. The pitching machine of claim 10, wherein said holes of said firing cup, said cup stop and said firing rod of said activation rod are square.

[c12] 12.The pitching machine of claim 1, wherein said control unit is a foot pedal assembly which includes a base, pedal arm and a pedal; wherein said pedal arm includes a cable end and pedal end and said pedal arm is rotatably attached to said base at a point on said pedal arm which is between said cable end and said pedal end; wherein said pedal is attached to said pedal end of said pedal arm; wherein there is a release cable connected between said release assembly and said pedal arm; wherein there is a firing cable connected between said ball firing assembly and said pedal arm; and wherein said pedal arm includes an adjustable pedal stop on a bottom of said pedal end of said pedal arm.

[c13] 13.The pitching machine of claim 4, wherein said release assembly includes a first ball stop which can be moved into said inner open path of said release section and a second ball stop which can be moved into said inner open path of said release section.

[c14] 14.The pitching machine of claim 4, wherein said ball release assembly includes a release arm; wherein said release arm includes a first end and a second end; wherein said release arm pivotally mounts to said release section between said first and second ends; wherein said release arm includes a first ball stop which can be moved into said inner open path of said release section on said first

end of said release arm and a second ball stop which can be moved into said inner open path on said second end of said release arm.

[c15] 15. The pitching machine of claim 4, wherein said ball firing assembly includes a firing housing, firing rod, firing spring, firing cable and firing cup; wherein said firing housing is located at said ball rest end of said ball tube assembly; wherein said firing housing includes a cup stop with a hole; wherein said firing cup includes a top, a bottom, said top of said firing cup includes a cavity to form a ball cup to receive the ball and said firing cup includes a hole from said top to said bottom of said firing cup; wherein said firing rod includes a top end and a bottom end; wherein said top end of said firing rod is interconnected to said firing cup, wherein said firing spring is slipped over said bottom end of said firing rod and below said firing cup; wherein said bottom end of said firing rod is inserted into said hole of said cup stop in said firing housing; and wherein said firing cable is connected between said bottom end of said firing rod and said control unit.

[c16] 16. The pitching machine of claim 15, wherein said ball firing assembly further includes an activation rod, activation arm and activation return spring; wherein said activation rod includes a top end and a bottom end;

wherein said top end of said activation rod protrudes into said activation section of said ball tube assembly such that the ball hits said top end of said activation rod as the ball rolls along said inner open path; wherein activation arm includes a firing rod end and an activation arm end; wherein said firing rod end of said activation arm includes a hole to receive said firing rod; said firing housing includes an activation opening to allow said firing rod end of said activation arm to be inserted into said firing housing; wherein opposite said activation opening said firing rod end of said activation arm is pivotally connected to said firing housing; wherein said activation arm end of said activation arm is rotatably attached to a bottom end of said activation rod; wherein said activation return spring is mounted between a point at about mid point of said activation arm and a point above said activation arm on said ball tube assembly.

[c17] 17. The pitching machine of claim 16, wherein said holes of said firing cup, said cup stop and said firing rod of said activation rod are square.

[c18] 18. The pitching machine of claim 16, wherein said ball tube assembly is pivotally connected to said support frame to adjust ball launch angle.

[c19] 19. The pitching machine of claim 16, wherein said con-

trol unit is a foot pedal assembly which includes a base, pedal arm and a pedal; wherein said pedal arm includes a cable end and pedal end and said pedal arm is rotatably attached to said base at a point on said pedal arm which is between said cable end and said pedal end; wherein said pedal is attached to said pedal end of said pedal arm; wherein there is a release cable connected between said release assembly and said pedal arm; wherein there is a firing cable connected between said ball firing assembly and said pedal arm; and wherein said pedal arm includes an adjustable pedal stop on a bottom of said pedal end of said pedal arm.

[c20] 20. The pitching machine of claim 19, wherein said ball tube assembly is pivotally connected to said support frame to adjust ball launch angle.